

WHAT IS CLAIMED IS:

1. A method for preventing the reproduction of documents comprising the steps of:
  - (a) establishing a document having indicia printed thereon; and,
  - (b) forming a hologram on a surface of said document, said hologram being positioned for preventing reproduction of at least a portion of said indicia by reflecting light generated by a document reproduction device in a predetermined manner.
  
2. The method for preventing the reproduction of documents as recited in Claim 1 wherein said hologram of said formation step is formed to deflect light in selective directions.

3. The method for preventing the reproduction of documents as recited in Claim 1 wherein said formation step includes selectively forming said hologram over a plurality of separate regions of said document.

4. The method for preventing the reproduction of documents as recited in Claim 1 wherein said hologram is formed as a high efficiency phase hologram.

5. The method for preventing the reproduction of documents as recited in Claim 1 wherein said formation step includes recording said hologram on a variable refractive index material.

6. The method for preventing the reproduction of documents as recited in Claim 5 wherein said variable refractive index material is a photopolymer.

7. The method for preventing the reproduction of documents as recited in Claim 5 wherein said variable refractive index material is a photocrosslinkable polymer.

8. The method for preventing the reproduction of documents as recited in Claim 5 wherein said variable refractive index material is an organic semiconductor.

9. The method for preventing the reproduction of documents as recited in Claim 5 wherein said step of forming a hologram includes coating said document with a thin film layer of said variable refractive index material.

10. The method for preventing the reproduction of documents as recited in Claim 9 wherein said thin film layer is formed with a thickness of 10 micrometers.

11. The method for preventing the reproduction of documents as recited in Claim 5 wherein said step of establishing said document includes forming said document from a base stock having said variable refractive index material contained therein as an organic pigment.

12. The method for preventing the reproduction of documents as recited in Claim 11 wherein said organic pigment has a concentration of 1 to 5 by volume in said base stock.

13. The method for preventing the reproduction of documents as recited in Claim 5 wherein said step of establishing said document includes formation of said indicia from a printing ink containing said variable refractive index material therein as an organic pigment.

14. The method for preventing the reproduction of documents as recited in Claim 13 wherein said organic pigment has a concentration of 1 to 5 by volume in said printing ink.

15. A non-reproducible document comprising:

a base layer having an upper surface, said upper surface having indicia printed thereon;

a hologram formed on said upper surface of said base layer, wherein said hologram deflects light generated by a reproduction process to prevent reproduction of said indicia.

16. The non-reproducible document as recited in Claim 15 wherein said hologram deflects said light in selective directions corresponding to specific regions of said base layer.

17. The non-reproducible document as recited in Claim 15 wherein said hologram produces a plurality of images, each said image corresponding to a selected wavelength range of light reflected from said indicia.

18. The non-reproducible document as recited in Claim 15 wherein said hologram is a high efficiency phase hologram.

19. The non-reproducible document as recited in Claim 15 wherein said hologram is recorded on a variable refractive index material.

20. The non-reproducible document as recited in Claim 19 wherein said variable refractive index material is a photopolymer.

21. The non-reproducible document as recited in Claim 19 wherein said variable refractive index material is a photocrosslinkable polymer.

22. The non-reproducible document as recited in Claim 19 wherein said variable refractive index material is an organic semiconductor.

23. The non-reproducible document as recited in Claim 19 wherein said variable refractive index material is formed on said upper surface of said base layer as a thin film layer.



24. The non-reproducible document as recited in Claim 23 wherein said thin film layer has a thickness of 10 micrometers.

25. The non-reproducible document as recited in Claim 19 wherein said base layer is formed from a base stock having said variable refractive index material contained therein as an organic pigment.

26. The non-reproducible document as recited in Claim 25 wherein said organic pigment has a concentration of 1 to 5 by volume in said base stock.

27. The non-reproducible document as recited in Claim 19 wherein said indicia is formed from a printing ink having said variable refractive index material contained therein as an organic pigment.

28. The non-reproducible document as recited in Claim 27 wherein said organic pigment has a concentration of 1 to 5 by volume in said printing ink.